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CONFERENCE REPORT

Product category rules alignment workshop, October 4, 2011 in Chicago, IL, USA

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Abstract
Purpose A workshop on Product Category Rule (PCR) alignment was organized by the American Center for LCA PCR Committee. PCR alignment refers to the process of assuring that PCRs (rules for developing LCA-based claims like EPDs) developed by different parties are consistent within product categories.
Methods The workshop was held as a special session in the LCA XI conference. The goals of the workshop were to identify the state of progress on PCR development worldwide, to establish consensus on the need for PCR alignment, and to propose the actions towards global alignment of PCRs. Speakers presented on these topics and a moderated discussion was held to discuss the implications of PCR alignment, to determine the scale on which alignment is appropriate, and to identify the actions and institutional roles to promote alignment.
Results and conclusions Approximately 120 persons from EPD programs, industry associations, standards organizations, LCA consulting firms, government agencies, NGOs and academia participated. The discussion was engaging and positive feedback was received. The American Center for LCA PCR Committee intend to use the outcomes of this workshop to engage others in the PCR community, make

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recommendations for best practices for PCR development, and to promote harmonization of PCRs both within the US and globally.

Keywords Alignment · Environmental product declarations · Product carbon footprints · Product category rules

1 Background and introduction

The Product Category Rule (PCR) Alignment workshop was held as a special session at the Life Cycle Assessment (LCA) XI conference hosted by the American Center for Life Cycle Assessment (ACLCA) in Chicago, IL, on October 4, 2011. The workshop was attended by more than 120 people which included program operators, academics, consultants, researchers, and industry personnel. The organization of this workshop was prompted by emerging efforts towards PCR alignment that have been initiated by the PCR Roundtable of the Product Carbon Footprint-World Forum and the PCR committee of the ACLCA. The ACLCA PCR committee is an open committee of LCA practitioners from industry, academia, and government with an interest in helping PCRs and environmental product declarations (EPDs) move forward. This committee spearheaded the organization of this workshop.

Three goals of the workshop were to: (1) identify the state of progress on PCR development worldwide, (2) establish consensus on the need for PCR alignment, and (3) enumerate the actions required for global alignment of PCRs. The invited speakers to the workshop brought in a range of experiences from publishing PCRs and EPDs to analyzing PCR systems to drafting PCR-related standards. The talks in the workshop were grouped into five themes: (1) introduction to PCRs and related concepts, (2) PCR system and standard development, (3) the concept of alignment and related activities, (4) application of PCRs to product carbon footprints, and (5) case studies in PCR alignment.[1] The workshop organizers systematized the presentations in such a way that workshop participants with little or no knowledge of PCRs would be able to grasp the concept and participate effectively. Once the presentations were wrapped up, the organizers opened up the workshop for discussion of important issues including clarification of the alignment concept, the scale and depth for which alignment is needed, and identifying the path and next steps toward alignment.

1.1 Summary of the presentations

Product category rules are a critical foundation of LCA-based claims. They are being rapidly developed for the growing interest of making comparable environment claims for products. Wesley Ingwersen of the US EPA opened the workshop with a brief explanation of the problem at hand: the status quo is that PCRs are being developed without coordination, which has and will continue to result in inconsistent PCRs for the same categories of products. This could ultimately lead to a loss of legitimacy for LCA-based claims. An alternative would be to align or harmonize PCRs in a way that would promote their alignment, give these claims more integrity, transparency, and global consistency.[2] Before introducing the first speaker, Ingwersen called the attendees to begin thinking about the possibilities for alignment of PCRs and how the community could take steps in this direction.

PCRs are still an emerging topic among the larger body of LCA practitioners as well as the product labeling community, so the organizers felt that the workshop needed to begin with an general introduction. Lindita Bushi of the Athena Institute delivered a presentation to define PCRs and related concepts (Bushi 2011). Bushi explained that PCRs were first defined in ISO 14025, where they are a prerequisite for publication of an EPD, which is a declaration of quantified environmental performance information based on an LCA that is compliant with ISO 14040/44 (ISO 2006c, b). PCRs set the rules and format for the EPD for a given product category and are published by a given program operator, after development and verification by a third party. This introduction to key terminology and procedures for PCRs was followed by a presentation by Loretta Tam from UL Environment (Tam 2011). Tam described characteristics of EPDs that distinguish them from other types of environmental products claims, including that they can be created for all products and services and are publicly accessible, that they are credible, objective, neutral, and importantly, comparable when based on the same PCRs. Tam emphasized that PCRs enable "apple-to-apple" comparisons of products and are a step beyond what results from uncoordinated LCA studies of products serving the same function. Tam explained that there is a range of parties interested in EPDs, which includes supply chain procurement officials to product manufacturers to retailers, as well as final consumers. Tam cited examples of PCRs that have been published or are in development by program operators in the USA and presented an overview of programs in other parts of the world.

[1] The workshop program and downloadable presentations can be found at http://lcacenter.org/lcaxi/sessions/PCR_alignment.htm

[2] A complete discussion of this perspective can be found in Ingwersen and Stevenson (2011).

Examples of PCR-related activities in the USA were presented in the second part of the workshop. The Sustainability Consortium (TSC) is a US-based organization that is developing PCRs in partnership with its large body of corporate members and academic affiliates. Greg Thoma, the research director at TSC, provided the audience a real-time update of how PCRs function in their Sustainability Measurement and Reporting System (Thoma 2011). TSC has defined PCRs as a step toward a product sustainability declaration, which is analogous to an EPD but will display social impact results as well as "performance drivers and indicators." Thoma explained that TSC's PCRs, the first of which are under revision now, would be linked to baseline LCA models for the product category, which will permit more robust comparisons than PCRs that are not packaged with models. The baseline models themselves are described in the product category LCA, which is a step recommended in ISO 14025 to inform PCR development, but which existing PCRs have largely not followed to date. Amy Costello from Armstrong World Industries presented on PCR standardization efforts within the ASTM Sustainability Committee for the building sector (Costello 2011). Costello has led the development of a draft ASTM standard (ASTM 2011) with the intention of permitting comparable EPDs for building products. The standard is not a PCR in itself but would serve as an umbrella standard for PCR and EPD development within the sector. The motivation for the standard is that ISO 14025 does not provide the specificity needed to assure a consistent process for PCR development, and a more specific standard can meet that need.

PCRs had been presented in the context of EPDs or closely-related claims but Holly Lahd, who presented in place of Laura Draucker of the World Resource Institute, explained that PCRs are analogous to what is referred to as "product rules" in the newly released GHG Protocol Product Life Cycle Accounting and Reporting Standard[3] which defines the rules for product carbon footprints (Draucker and Lahd 2011). Lahd explained that this standard is sufficient for public reporting and performance tracking, a product rule is required to enable comparisons of product carbon footprints for products within the same category. These rules are developed in an open process that is similar with that defined for PCRs in ISO 14025 (although that standard is not specifically used as a reference) and thus the work needed for future product rule development is very similar in nature to that for PCR development, and it is best organized at a global level. World Resources Institute (WRI) is participating in these organizational efforts and has recently developed a common product rule/product category rule template to this end.

[3] Available at http://www.ghgprotocol.org/

The presentations on PCR concepts, applications, and related standards paved the way for talks related to the theme of the workshop, which was PCR alignment. This theme was led off by Cashion East of Pre-Consultants, speaking on behalf of founder Mark Goedkoop (Goedkoop and East 2011). East described the origins of the idea of harmonizing PCRs through the PCR Roundtable. Goedkoop was instrumental in helping to launch the PCR Roundtable at a March 2010 meeting of the Product Carbon Footprint World Forum. The roundtable surveyed the evolving landscape of PCRs, where multiple standards had become the foundation for LCA-based claims. East further explained that we have seen the appearance of multiple program operators in different parts of the world and the emergence of broad industry coalitions like the Sustainability Consortium and the Apparel Coalition that have launched programs that will require PCRs but the absence of an organization to bring standards and PCR developers together to harmonize. East spoke of the potential consequences of lack of harmonization, including high costs for organizations trying to comply with different PCR requirements and loss of trust by NGOs. To work towards harmonization, efforts could begin on a national level, but coordination at the international level is essential for success, he said. The Roundtable and GEDnet (the global EPD program operator network) are two forums through which coordination could move forward. Sven-Olof Ryding continued with the alignment theme with a talk on process consensus for PCR alignment (Ryding 2011). Ryding belongs to the Swedish Environmental Management Council, which founded the International EPD System, one of the most active and largest international program operators. He is also a leader of GEDnet and participated in the development of the ISO 14025 standard. Ryding emphasized that it is important to consider harmonization of not just the PCR document but also the process-related procedures for EPD program operators, such as, the requirements for PCR development and review, assurance of ISO or other standard compliance, data integrity, and EPD verification. Ryding also mentioned that PCRs and procedures for product carbon footprints should be dealt with in the same manner and that they can be considered single-attribute EPDs.

The final theme for presentations was "case studies in PCR alignment" and consisted of a comparison study of EPD programs presented by Rita Schenck and a comparison study of PCRs, presented by Vairavan Subramanian. Schenck, the director of the ACLCA and chair of the ACLCA PCR committee, presented a study comparing rules of four program operators, the International EPD System (based in Sweden), Institute for Environmental and Research and Education (IERE) (based in the USA), the emerging French program based on the BPX 30–323 standard, and the JEMAI Ecoleaf program (based in Japan) (Schenck 2011). Schenck found numerous differences in rules for EPD procedures, especially

regarding the transparency of the process, but emphasized that her analysis was based only on the publicly available program rules and not based on actual operations. Yet, her research made it apparent that the concerns expressed on procedural inconsistency in the previous talk by Ryding were indeed evident. Subramanian of Arizona State University summarized a study conducted in collaboration with Wesley Ingwersen, Connie Hensler (Interface, Inc., USA), and Heather Collie (DEFRA, UK) comparing PCRs for the same category of products (Subramanian et al. 2011). The team developed a template for comparison of PCRs[4] and then used this template for comparing PCRs for the same product category published by different program operators.[5] The "duplicate" PCRs were in the categories of wood particle board, laundry detergent, horticulture, and dairy and came from both EPD and carbon footprint programs from seven countries. Using the criteria for comparison in the template, only the wood particle board PCRs from IBU (Germany) and the International EPD systems were more consistent than in conflict; for the other categories, PCRs differed in impacts addressed, functional units, data requirements, and most aspects of the LCA rules that are the foundation of the PCRs. Subramanian shared insights that arose from the comparison work in the form of recommendations for the structure and contents of PCRs themselves and the rules for program operators.

2 Discussion

The presentations were followed by a moderated discussion in which all attendees were encouraged to participate. The discussion was focused around questions yet to be answered regarding PCR alignment. In an ideal sense, alignment would imply one PCR for a product category for the whole world. In this discussion, the participants were asked to think about how that ideal could be achieved, by enumerating and formulating the next steps that should be taken towards more alignment and consistency in PCRs. The questions asked to the participants and their responses are summarized below:

1. What do we mean by alignment? In addition, how is it different from harmonization and adaptation?

   Alignment of PCRs refers to the existence of multiple PCR documents for a single product category which are compatible. The environmental claims from aligned PCRs are comparable. Harmonization of PCRs refers to the merging of all existing PCRs for a single product category into a single PCR document for that category. Both of these terms can be applied on national or international scales—but most often, the reference is to an international scale. Adaptation of PCRs refers to the modification of already existing PCRs, for a product category, to a new context. No alternative definitions were offered for the aforementioned terms.

   A few participants suggested that the scope of alignment necessitates the inclusion of data and/or LCA models. Although the presentations focused on alignment of PCRs, participants felt that some emphasis on the background data the PCRs are based on must be provided. It was stated, that, at times, the same product datasets from different databases are hugely different. Therefore, there is a need to clarify how and if we should include alignment of data within this discussion, as a top–down effort. A step forward was made for data alignment with the issuance of the Global Guidance document for LCA data by the UNEP/SETAC Life Cycle Initiative (UNEP/SETAC Life Cycle Initiative 2011). One participant recommended that if the big players in background data, such as, World Steel, can align on the system boundaries, then a majority of data issues can be resolved. In other words, alignment in background data requires collaboration of the industry associations and the database owners to create consistency.

   Another participant pointed out that one of the major challenges with harmonization, adaptation, and alignment is that PCRs often do not include product quality as a part of the functional unit. Very often, quality standards for products are different in different parts of the world. This is something that must be addressed when dealing with harmonization. For example, one ton of steel is not the same in two different countries due to their quality standards.

   It was suggested that impact assessment is an area around which alignment may be very difficult to achieve, especially internationally, where there is wide divergence on methodologies developed and used. One participant explained that ISO 14044 mandates that comparative assertions must be done on an impact basis and not just an inventory basis, therefore impact assessment may be necessary for EPDs.[6] An alternative might be to use a simplified LCIA methodology around which many parties can agree.

   Limiting of the scope of PCRs to environmental aspects of products should be avoided, suggested one participant. We must support the incorporation of social metrics into PCRs like TSC is doing, and further

[4] The template is available on the ACLCA PCR committee website at http://www.lcacenter.org/product-category-rule.aspx

[5] The detailed results of the PCR comparison can be found in Subramanian et al. (Subramanian et al. under review)

[6] The authors note that an 14025 EPD is not the same as a 14044 comparative assertion, and ISO 14025, clause 6.8.2, states that an EPD may be based solely on life cycle inventory data (ISO 2006a).

suggested that alignment needs to occur across environmental and social issues. The market is demanding information on social aspects of products now and a focus only on environmental aspects would weaken the interest and perceived value of EPDs in the marketplace.

2. When discussing alignment, at what level can we reach it? Could this occur at a national or international level?

A couple of participants suggested that creating PCRs with a national or regional scope could make the process simpler. For example, Asia, America, and Europe, could have individual PCRs for their respective regions. It is likely on the national scale that regulation might apply. Other participants voiced strong opposition to PCRs with less than a global scope, citing the burdens this would place on companies selling their products, and the fact that only a global scope seems relevant because supply chains are now global. Another participant suggested that PCRs with a scope more constrained than global could be viewed as technical barriers to trade through the WTO. Another recounted from first-hand experience that PCRs are already an area of concern for trade officials, reinforcing the need for international harmonization.

One participant posed whether there are cases of international standardization of a similar tool or international regulations that could guide the process of international alignment. Another suggested that the recent expanded requirements for financial reporting in the USA could serve as one model.

3. Many existing PCRs use product classification systems to define the product category. However, there is more than one international system in use by program operators. For example, the International EPD System uses the Central Product Classification (CPC), the IERE uses the United Nations Standard Products and Services Code (UNSPSC), and the Sustainability Consortium uses Global Product Classification (GPC). Which classification should we use, and can we gain some consensus on a common classification system so that PCRs are classified the same way?

An immediate response was that if the classification systems could be cross-referenced, then this issue is mostly nullified. There was a common understanding that UNSPSC was derived from CPC, and therefore, the ability to cross-reference should not be infeasible. GPC was referred to as a detail-oriented classification system that can be complementary to the similar classification systems (CPC and UNSPSC). A mapping tool between GPC and UNSPSC is currently available.

One participant challenged the applicability of existing classification systems to PCRs. In the context of an LCA, these classification systems do not really apply to the function of a product, as they have been developed for other purposes. ISO 14025 clearly talks about a comparison based on function. Although the classification systems are useful, what is needed for LCA is the ability to communicate what products are comparable and substitutable on the market place—that is what defines a product group in an LCA context. The participant argued that product function is completely different from the available product classifications. There is a need to think differently here without excluding the benefits of the existing classification systems.

Another participant defended the usefulness of classification systems, saying that despite its deficiencies, it helps us plan for the future by identifying how many PCRs are needed for the economy. In retrospect, scalability has always been a problem with PCR development.

4. There are differences in the level of detail used by various program operators. What is the desired level of detail that must be contained in a PCR?

One participant responded the level of detail could be based on the scope of the PCR. A highly detailed PCR might not be suitable for a global scope because of regional differences in supply chains. A global PCR with a high level of detail but with some flexibility within it might be suitable. No other participants shared a contrary opinion.

5. The PCR taskforce has suggested the creation and use of global guidance document for PCRs. WRI has created a draft PCR template, so that PCRs are structured the same way. Another suggestion was the creation of a Wiki for PCRs and lastly, the need for an online tool to facilitate the creation of PCRs was expressed. What tools or actions would be useful for facilitating alignment?

Extending and strengthening the ISO standards will be the most useful action the community can take, one participant said. He said that in his 17 years of experience in the LCA field, these standards have been the pillars that have supported the spread and acceptance of LCA as a tool for improving environmental performance of products. ISO 14020 and 14025 have supported EPD development and should be further improved to support alignment.

A challenge pointed out during the discussion was that existing PCRs are still difficult to find. Some organizations have begun to create registries of PCRs (e.g., the PCR library hosted by JEMAI[7]), but these need to become more inclusive and accessible. Another participant added that entities where program operators come together, like GEDnet,[8] need to serve as a place where the operators can work out differences on PCRs and work toward alignment.

[7] The PCR library can be found at http://www.cfp-japan.jp/english/gpl/index.html

[8] The Global Environmental Declaration Network. http://gednet.org/

Although most participants refrained from making a choice on the type of tool/action, some participants made references to the need for some sort of guidance towards alignment.

6. What are the necessary institutional roles that can be played for the process of alignment?

One participant suggested that government needs to play a role as an intermediary between PCR programs and trade offices to make sure that PCRs do not become (or appear to be) a barrier to trade. Another participant suggested that the community needs to be supportive, yet cautious, about industry moving forward on developing EPDs that might create rules that favor their materials over other materials that might be intermediates for functionally equivalent products. This response prompted similar calls to opening up the PCR process to other stakeholders, especially environmental and consumer groups that have often been left out of related LCA standardization efforts.

One member of an industry association clarified they are committed to develop LCI data and argued they are also committed to developing transparent, accepted rules and datasets because it is in their own interest for their investment in data and PCRs to be valid in the public sphere, now and in the future. Another industry association representative argued against the statement that raw material industries will create PCRs that will favor their materials—he claimed that his association was focused on the end product and thus the end function of the material would be measured fairly against others. A member of a nonprofit group explained that they are trying to educate the public on the value of LCA approaches and that this needs to be expanded to show the public the value of EPDs because greater consumer demand and support will fuel this process of alignment.

Ingwersen concluded the discussion period on behalf of the organizers with a reminder that LCA-based claims are still an emerging area and the importance of alignment has just recently been acknowledged in the LCA community. He encouraged participants to continue to work together in their respective roles in industry, government, consulting, NGOs, and others to educate their colleagues about the importance of alignment and work together toward this objective. Gratitude was expressed to everyone for participating.

3 Conclusions

The organizers of PCR Alignment Workshop received positive feedback from participants and LCA XI conference organizers about the value of the workshop. The workshop has helped to shape the plan of work for the coming year for the ACLCA PCR committee, which intends to help foster best practice for PCR development in the form of a guidance document and example PCRs. The committee hopes to engage program operators and standards developers in this process and work in parallel with other groups such as the PCR Taskforce to contribute to the process of PCR alignment.

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